

Nucleation in a metallic glass under shear deformations

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Abstract

Nonequilibrium atomic dynamics is simulated in single-component metallic glass under the influence of shear strains with different shear rates and temperatures. Based on the simulation data and cluster analysis, such parameters of nucleation processes as the nucleation rate, the size of a critical cluster, and the Zeldovich factor are found. The dependence of these quantities on the shear rate is discussed. © 2011 Allerton Press, Inc.

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